

Appl. No. 10/657,320  
Docket No. 8652C  
Amdt. dated October 20, 2006  
Reply to BPAI decision of 09/29/06  
Customer No. 27752

## REMARKS

### Claim Status

Claims 1, 3-15 are pending in the present application. No additional claims fee is believed to be due.

Claim 1 has been amended to recite a print enhancing fluid disposed on one of the first or the second surfaces of an absorbent disposable paper product, whereby indicia printed on the first or the second surface is at least partially printed in register with the print enhancing fluid. Support for the amendment is found in original Claim 2; page 4, line 15; page 13, lines 17-22 of the specification.

Claim 5 has been amended to recite an absorbent disposable paper product comprising a print enhancing fluid, at least a portion of the print enhancing fluid having ink applied thereto. Support for the amendment is found in original Claim 2; page 4, line 15; page 13, lines 17-22 of the specification.

Claims 6, 7, 9 and 13-15 have been amended to recite an absorbent disposable paper product. Support for the amendment is found in original Claim 2; page 4, line 15.

Claim 8 has been amended to recite an absorbent disposable paper product comprising a print enhancing fluid, at least a portion of the print enhancing fluid having ink applied thereto. Support for the amendment is found in original Claim 2; page 4, line 15; page 13, lines 17-22 of the specification.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

### Patentability Under 35 U.S.C. §101

The instant claims are patentable under 35 U.S.C. §101 because the printed indicia (various color densities) are functionally related to the substrate. In re Ngai, 367 F.3d 1336 (Fed. Cir. 2004). The standard for deciding patentability of printed matter on a

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substrate is whether "there exists any new and unobvious functional relationship between the printed matter and the substrate." In re Gulack, 703 F.2d 1381, 1386 (Fed. Cir. 1983). In this case, the variable color densities are related to the substrate in two ways. First, the variable color densities exist as a result of the use of a print enhancing fluid on the substrate as is claimed by the Applicant. Thus, the printed indicia exploit the surface properties of the substrate. Second, the substrate supports the print enhancing fluid and the ink, thus serving as a support means by which the ink interacts with the print enhancing fluid, leading to the variable color densities, and other properties, such as the rub off ratio. Therefore, the printed indicia are functionally related to the substrate and are patentable.

#### **Novelty Under 35 USC §102(b) Over US 5,853,197**

##### **Claims 1, 3, 4, 10-12**

Claims 1, 3, 4 and 10-12 are novel under 35 USC §102(b) over US 5,853,197 (hereinafter "Mowry") because Mowry does not teach every limitation of the Applicant's claimed invention. W.L. Gore & Assocs. v. Garlock, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). Specifically, Mowry does not teach an absorbent disposable paper product nor does Mowry teach a background color density as are claimed by the Applicant.

Mowry discloses a printed security system for documents. (Mowry, Col. 1, lines 4-8). A security document is not an absorbent paper product. Further, Mowry discloses a "density of the background printed matter" (Mowry, Col. 6, line 19), but this is not the same as the background color density because the background elements disclosed in Mowry, and labeled as item 24, are actually defined by the Applicant as a print element, or individual indicium which comprises the print image, or print elements, as are distinct (Specification, p. 4, lines 21-23). In addition, the mere disclosure in Mowry that a printed dot (print element color density) may have a rough edge (Mowry, Col. 5, lines 50-52) does not teach a background color density. The Applicant contends that the rough edges in Mowry are more properly considered to be print element color densities because the Applicant had accounted for irregularly shaped print element color densities

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(Specification, p. 20, lines 11-13) which includes a print element with rough edges. Even if the if the rough edges taught in Mowry are not part of the print element color density, this edge is a microscopic color density variation of the print element color density as is claimed by the Applicant in Claim 1.

Thus, because Mowry does not teach an absorbent disposable paper product and background color density as are claimed by the Applicant, Mowry does not teach every element as is claimed by the Applicant. As a result, the Applicant's claims 1, 3, 4 and 10-12 are patentable under 35 USC §102(b) over Mowry.

#### **Claims 5-7 and 15**

The Applicant submits that Claims 5-7 and 15 are novel over Mowry because Mowry does not teach a color density ratio between two solid print regions of at least 1.15.

At first glance, Mowry discloses a density of 15% for the security term and 10% for the background printed matter. (Mowry, Col. 6, lines 34-37). However, as used in Mowry, "density" refers to the percent area coverage of solid print regions. (Mowry, Col. 6, lines 19-29). By comparison, the Applicants claim a ratio of color density, which is defined in terms of absorbance,  $D = \log_{10} I/R$ . (Specification, p. 3). In other words, the density as referred to in Mowry is not the same as color density as is claimed by the Applicant. Consequently, Mowry cannot anticipate the Applicant's claimed limitation of a color density ratio between two solid print regions of at least 1.15 because Mowry does not teach color density.

Thus, because Mowry does not teach the color density ratio as is claimed by the Applicants, Mowry does not teach every element as is claimed by the Applicant. As a result, Claims 5-7 and 15 are novel under 35 USC §102(b) over Mowry.

#### **Claims 8, 9, 13 and 14**

The Applicant submits that Claims 8, 9, 13 and 14 are novel over Mowry because Mowry does not teach a rub off ratio between two solid print regions, with the same color and color density, of greater than 1.1.

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Mowry fails to disclose any information regarding the rub-off characteristics whatsoever. Mowry discloses that ink can be imparted onto the surface of the substrate by different methods. This is disclosed and accounted for by the Applicant. Specifically, Applicant states that "ink may be applied to the substrate directly or indirectly in any number of ways." (Specification, p. 12, lines 21-24). Thus, the mere use of different methods to impart ink onto the surface alone does not teach print regions (of the same color and color density) with different rub off ratios, let alone rub off ratios of greater than 1.1. As a result, Mowry cannot anticipate the Applicant's claimed limitation of a rub off ratio between two solid print regions of greater than 1.1.

Thus, because Mowry does not teach the rub off ratio as is claimed by the Applicant, Mowry does not teach every element as is claimed by the Applicant. As a result, the Applicant's claimed invention is novel under 35 USC §102(b) over Mowry.

**Novelty Under 35 USC §102(b) Over US 5,904,375**

As argued above, Claims 1, 3-15 are novel under 35 USC §102(b) over US 5,904,375 (hereinafter "Brugada") because Brugada does not teach every limitation of the Applicant's claimed invention. W.L. Gore & Assocs. v. Garlock, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). Specifically, Brugada does not teach an **absorbent disposable paper product**. In addition, Brugada fails to teach a background color density as are claimed by the Applicant in Claims 1, 3, 4, and 10-12.

Brugada discloses a printed security system for documents. (Brugada, Col. 1, lines 8-11). A security document is not an absorbent paper product. Further, Brugada teaches a micropattern including text or drawings with inks that include pigments and that the micropattern is composed of print elements such as, letters, shapes, dots and lines. (Brugada, Col. 1, lines 66-67; Col. 2, lines 1-7). Referring to Fig. 1 of Brugada, a series of letters that are printed behind the main image is shown. Both the letters and the main image are print elements, and not background color densities, as used by the Applicant. In particular, a print element is defined as "the individual indicium which comprises the print image." (Specification, p. 4, lines 21-23) and the background color density is the "color density surrounding each individual print element within the image area of the printed substrate." (Specification, p. 5, lines 15-16). Therefore, Brugada simply teaches

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smaller print elements surrounding (and behind) a larger print element and does not teach a background print density as is claimed by the Applicant.

Thus, because Brugada does not teach an absorbent paper product as is claimed by the Applicant, Brugada does not teach every element as is claimed by the Applicant in Claims 1, 3-15. Further, Brugada does not teach a background color density as is claimed by the Applicant in Claims 1, 3, 4, and 10-12. As a result, the Applicant's claimed invention is novel under 35 USC §102(b) over Brugada.

**Nonobviousness Under 35 USC §103(a) Over US 5,853,197 in view of US 5,871,615**

Claims 1, 3-15 are nonobvious under 35 USC §103(a) as being unpatentable over US 5,853,197 (Mowry) in view of US 5,871,615 (hereinafter "Harris"). The Applicant respectfully traverses this rejection on the ground that Mowry in view of Harris fails to teach or suggest all of the claimed limitations. MPEP §§2142-2143; *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Mowry discloses a printed security system for documents. (Mowry, Col. 1, lines 4-8). There is no suggestion, teaching, or motivation in Mowry to use an absorbent disposable paper product. Harris does not remedy this deficiency because Harris also only discloses a textured security document (Harris, Col. 2, lines 8-37) with no mention of a disposable paper product.

As discussed above, Mowry discloses a "density of the background printed matter" (Mowry, Col. 6, line 19) and a print element color density that may have a rough edge (Mowry, Col. 5, lines 50-52), neither of which are background color densities. There is no disclosure in Mowry that provides a teaching, suggestion, or motivation to include a background color density, as is described and claimed by the Applicant. Harris cannot remedy the deficiencies associated with Mowry because Harris does not contain any disclosure regarding printing. Thus, Mowry in view of Harris fails to make the Applicant's claimed invention obvious under 35 USC §103(a). *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP §2142, §2143.

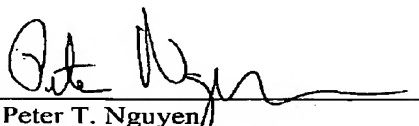
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Conclusion

In light of the above remarks, it is requested that the Examiner find the Applicant's Claims 1-15 patentable under 35 USC §101, 35 USC §102(b) and 35 USC §103(a). Early and favorable action in the case is respectfully requested.

Respectfully submitted,

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